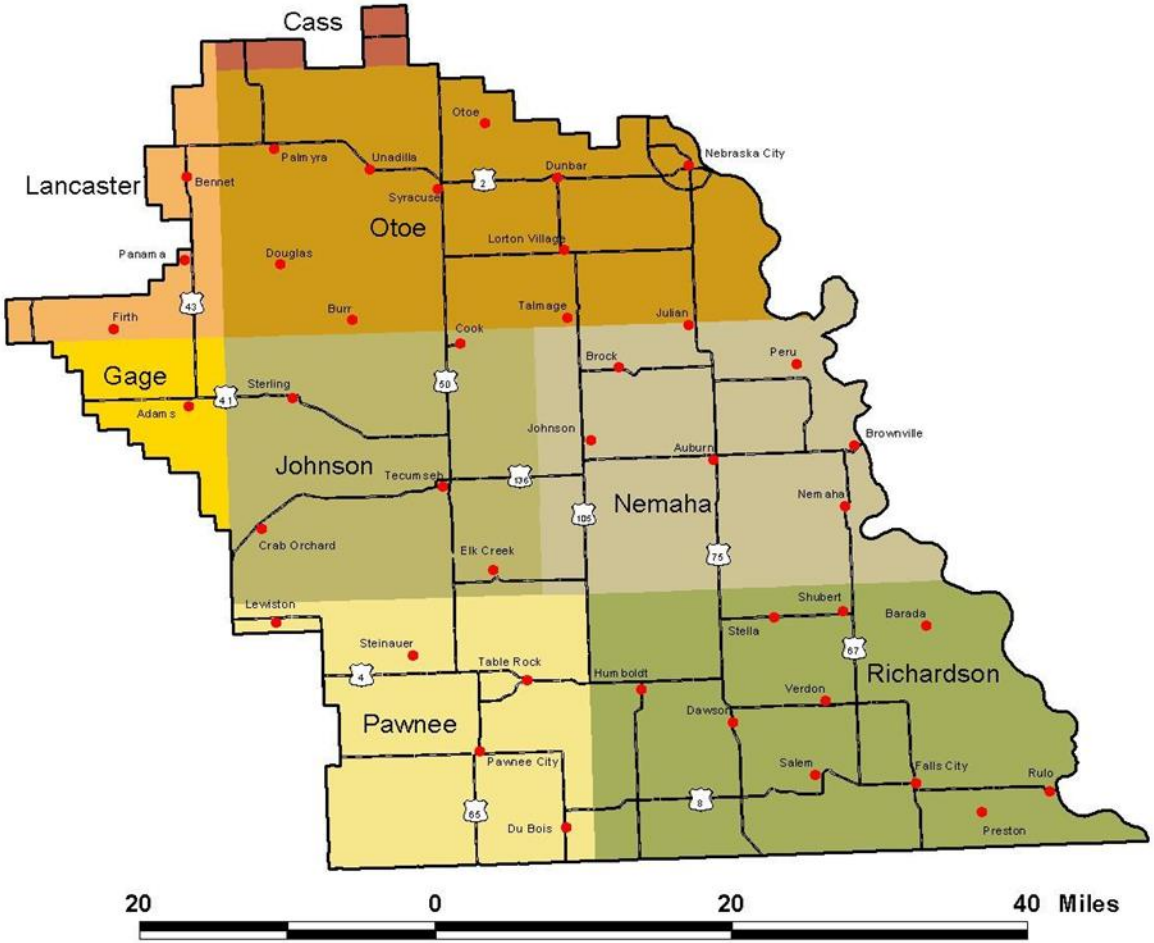
Nemaha
Natural Resources District



Aquifers

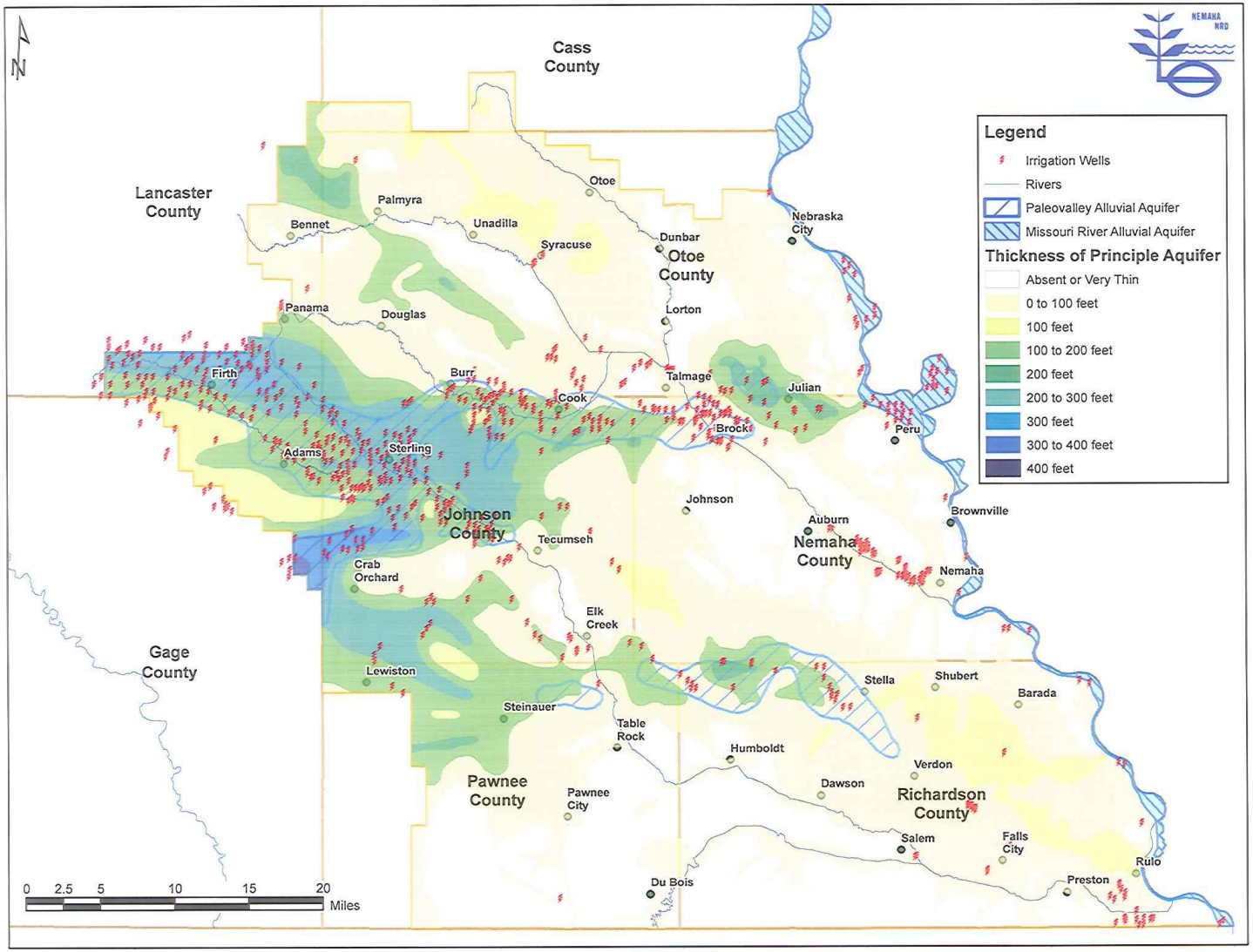
Paleovalley Aquifers

Alluvial Aquifers

Bedrock Aquifers

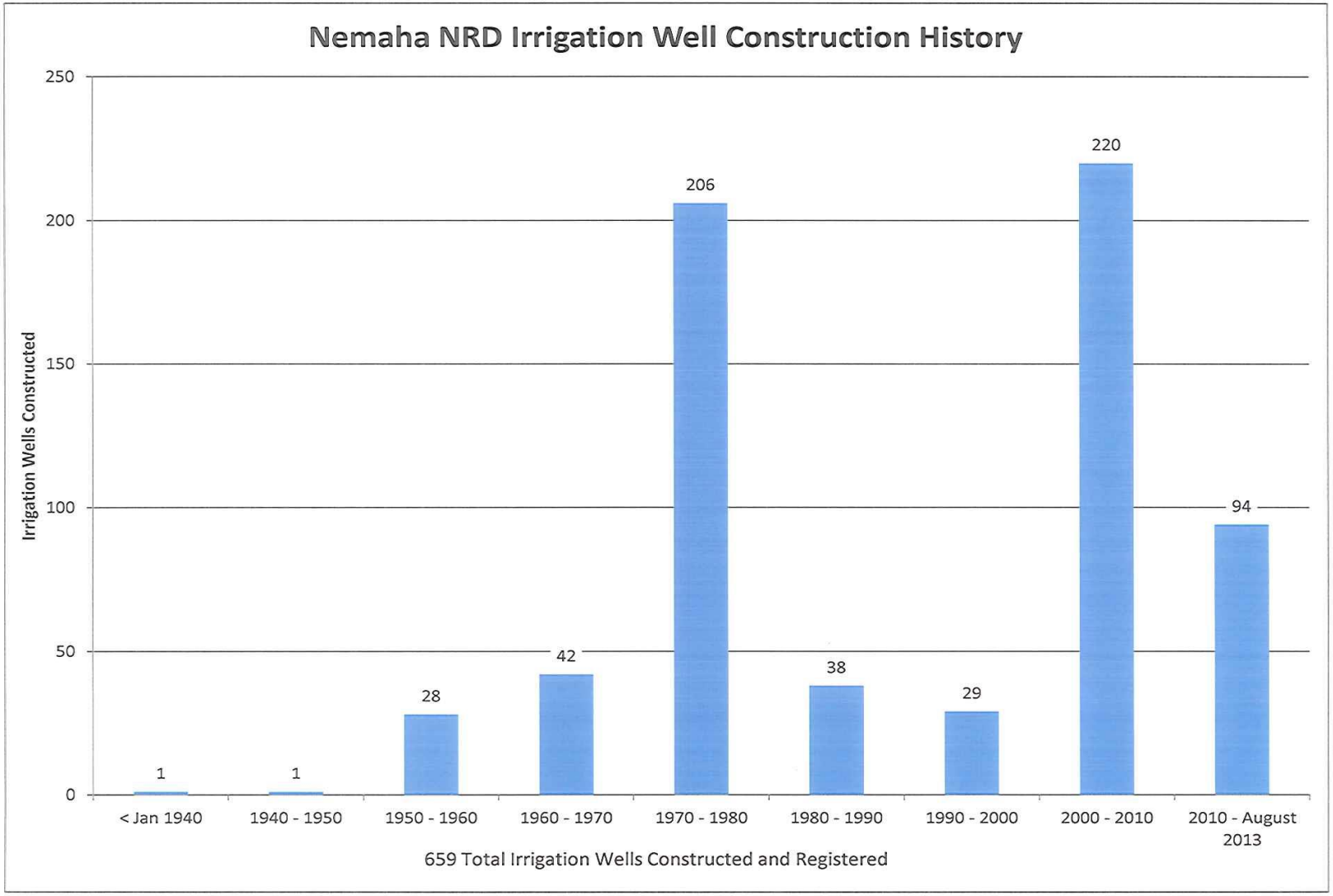
Glacial Drift Aquifers

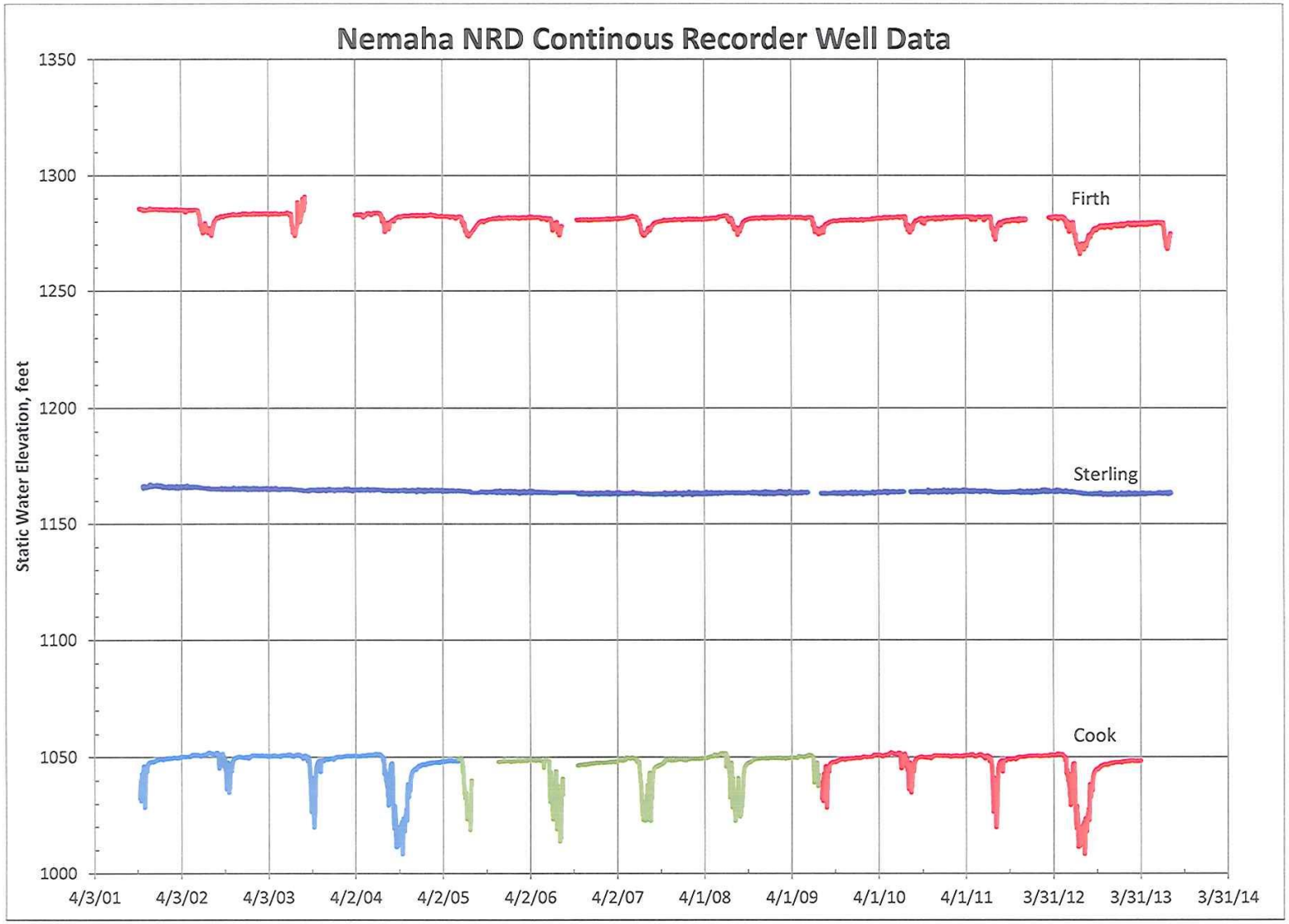
Aquifers and Irrigation Wells



Groundwater Use in the Nemaha NRD

- Irrigation
- Domestic/Livestock
- Industrial


Nemaha NRD Irrigation Well Construction History
Irrigation Wells Constructed
250
200
150
100
50
0
1
1
28
42
206
38
29
220
94
< Jan 1940
1940 - 1950
1950 - 1960
1960 - 1970
1970 - 1980
1980 - 1990
1990 - 2000
2000 - 2010
2010 - August 2013
659 Total Irrigation Wells Constructed and Registered


Nemaha NRD Continous Recorder Well Data
Static Water Elevation, feet
1350
1300
1250
1200
1150
1100
1050
1000
4/3/01
4/3/02
4/3/03
4/2/04
4/2/05
4/2/06
4/2/07
4/1/08
4/1/09
4/1/10
4/1/11
3/31/12
3/31/13
3/31/14
Firth
Sterling
Cook

Groundwater Issues Facing the Nemaha NRD

- Over Development
- Conflicts between Wells
- Long Term Public Water Supplies

Nemaha NRD Well Permit Ranking System

- ✓ Thickness of the Primary Aquifer
- ✓ Aquifer Transmissivity
- ✓ Irrigation Well Density
- ✓ Public Water Supply Density
- ✓ Industrial Well Density
- ✓ Irrigation Management Practice (gravity, sprinkler, drip, etc.)

All permits are ranked and only those scoring 201 points are more are approved

Public Water Supplies

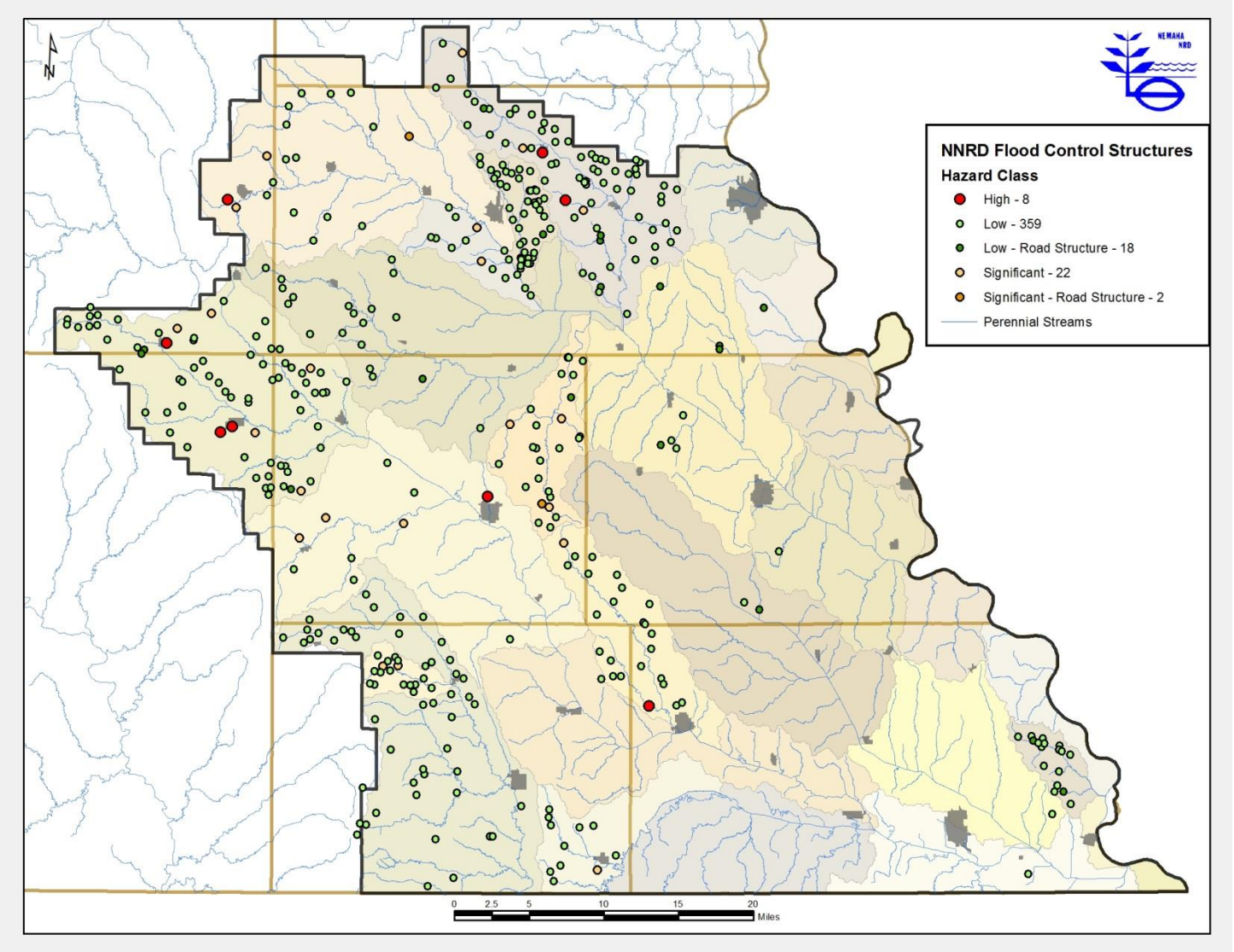
Need for Consolidation and Regionalization of Public Water Supply Systems

Flood Control

History of Flood Control in Southeast Nebraska

- Stream Channelization – Early 20th Century
- Watershed Prevention and Flood Control Act - 1954
- Early Pilot Watershed Projects – 1958 to 1965
- Major Watershed Planning and Construction – 1966 to 2000
- Dam Repair and Rehabilitation

Flood Control Structures in the Nemaha NRD



How Flood Control Projects were Funded

Federal (PL566)	70%
State (Resources Development Fund)	15%
Local (NRD/Landowner)	15%

The Future of Flood Control in the Nemaha NRD

Repair Aging Dams	$10 to $12 million
New Structures	$5 Million

Dam Rehab Cost

Built 1968 - $25,000
Rehab 2013 - $500,000

Wilson Creek 8H near Syracuse

New Dams

- Funding
- Permitting